

## WHAT IS CLAIMED IS:

- 1 ~~1.~~ A method of controlling hand over in a mobile communication  
2 system, in which a received level of a perch channel signal received at  
3 a mobile station for deciding a range of a cell (or sector) is compared  
4 with a reference value, to judge timing of starting or ending hand  
5 over, comprising the steps of:  
6       correcting said reference value using a correction value  
7 prepared in advance, such that hand over is started when the mobile  
8 station arrives at a range in which said mobile station can  
9 communicate with a base station that covers a destination cell (or  
10 destination sector), and the hand over is ended when said mobile  
11 station comes out of a range in which said mobile station can  
12 communicate with a base station that covers a source cell (or source  
13 sector) of the hand over; and  
14       judging timing of starting or ending said hand over, using  
15 said reference value corrected.
- 1 2. A method of controlling hand over in a mobile communication  
2 system, in which a received level of a perch channel signal received at  
3 a mobile station for deciding a range of a cell (or sector) is compared  
4 with a reference value, to judge timing of starting or ending hand  
5 over, comprising the steps of:  
6       preparing a correction value in advance for each combination  
7 of a source cell (or source sector) and a destination cell (or destination  
8 sector) of hand over;

9           recognizing a combination of a source cell (or source sector)  
 10 and a destination cell (or destination sector) as objects of hand over to  
 11 be started or ended;  
 12           correcting said reference value using a correction value  
 13 prepared in advance for said combination recognized; and  
 14           judging timing of starting or ending of said hand over using  
 15 said reference value corrected.

1   3.       The method of controlling hand over according to Claim 2,  
 2 wherein:

3           with respect to each combination of a source cell (or source  
 4 sector) and a destination cell (or destination sector) of hand over, said  
 5 correction value is decided depending on a difference between

6           a received level of a perch channel signal of said source cell  
 7 (or source sector) at a point where said received level of the perch  
 8 channel signal of the source cell (or source sector) becomes equal to a  
 9 received level of a perch channel of said destination cell (or  
 10 destination sector).

11 and

12           a received level of the perch channel signal of said source cell  
 13 (or source sector) or said destination cell (or destination sector) at a  
 14 point where a received level of a traffic channel signal at said source  
 15 cell (or source sector) and a received level of a traffic channel signal  
 16 at said destination cell (or destination sector) become equal.

1   4.       The method of controlling hand over according to Claim 2,  
 2 wherein:

3           with respect to each combination of a source cell (or source

4 sector) and a destination cell (or destination sector) of hand over, said  
 5 correction value is decided depending on  
 6 a difference between a transmitting level of a perch channel  
 7 signal of a base station covering said source cell (or source sector) and  
 8 a transmitting level of a perch channel signal of a base station  
 9 covering said destination cell (or destination sector), and  
 10 a difference between a receiving antenna gain of the base  
 11 station covering said source cell (or source sector) and a receiving  
 12 antenna gain of the base station covering said destination cell (or  
 13 destination sector).

1 ~~5.~~ A method of controlling hand over in a mobile communication  
 2 system, in which a received level of a perch channel signal received at  
 3 a mobile station for deciding a range of a cell (or sector) is compared  
 4 with a reference value, to judge timing of starting or ending hand  
 5 over, comprising the steps of:  
 6 accumulating at least one result (success or failure) of judging  
 7 said timing using said reference value for each combination of a  
 8 source cell (or source sector) and a destination cell (or destination  
 9 sector) of hand over;  
 10 correcting said reference value depending on said  
 11 accumulated result; and  
 12 setting said corrected reference value as a new reference value  
 13 that is used in judging timing of starting or ending hand over with  
 14 respect to said combination again.

1 ~~6.~~ A method of controlling hand over in a mobile communication  
 2 system, in which a received level of a perch channel signal received at

3 a mobile station for deciding a range of a cell (or sector) is compared  
4 with a reference value, to judge timing of starting or ending hand  
5 over, comprising the steps of:

6         accumulating at least one result (success or failure) of judging  
7 said timing using said reference value for each combination of a  
8 source cell (or source sector) and a destination cell (or destination  
9 sector) of hand over; and

10         adjusting a transmitting level of a perch channel of a base  
11 station covering a source cell (or source sector) or a destination cell  
12 (or destination sector) of a combination concerned, depending on the  
13 accumulated result.

1     7. A base station controller that judges timing of starting or  
2 ending hand over by comparing a received level of a perch channel  
3 signal with a reference value, with said perch channel signal being  
4 received at a mobile station and used for deciding a range of a cell (or  
5 sector), comprising:

6         a storage unit that stores a correction value for each  
7 combination of a source cell (or source sector) and a destination cell  
8 (or destination sector) of hand over;

9         an acquiring unit for acquiring information from a mobile  
10 station, said information indicating a combination of a source cell  
11 (or source sector) and a destination cell (or destination sector) of hand  
12 over to be started or ended with respect to said mobile station;

13         a correcting unit that corrects said reference value using a  
14 correction value that is stored in said storage unit correspondingly to  
15 the combination of the source cell (or source sector) and the  
16 destination cell (or sector), with said combination being recognized

17 from the information acquired by said acquiring unit; and  
18 a timing judgement unit that uses the reference value  
19 corrected by said correcting unit, to judge timing of starting or ending  
20 the hand over to be started or ended with respect to said mobile  
21 station.

1 ~~8.~~ A base station controller that judges timing of starting or  
2 ending hand over by comparing a received level of a perch channel  
3 signal with a reference value, with said perch channel signal being  
4 received at a mobile station and used for deciding a range of a cell (or  
5 sector), comprising:  
6 an acquiring unit for acquiring information from a mobile  
7 station, said information indicating a combination of a source cell  
8 (or source sector) and a destination cell (or destination sector) of hand  
9 over to be started or ended with respect to said mobile station;  
10 a timing judgement unit that uses said reference value to  
11 judge timing of starting or ending the hand over with respect to said  
12 mobile station; and  
13 a correcting unit that accumulates at least one result (success  
14 or failure) of trying starting or ending the hand over according to the  
15 timing judged by said timing judgement unit for the combination of  
16 the source cell (or source sector) and the destination cell (or  
17 destination sector) indicated by the information acquired by said  
18 acquiring unit, corrects said reference value depending on said  
19 accumulated result, and sets said corrected reference value as a new  
20 reference value that is used by said timing judgement unit for judging  
21 timing of starting or ending the hand over with respect to said  
22 combination again.



8           a recognizing unit that recognizes a source cell (or source  
9 sector) and a destination cell (or destination sector) of hand over to be  
10 started or ended, based on received levels of perch channel signals;

15           a timing judgement unit that uses the reference value  
16   corrected by said correcting unit, to judge timing of starting or ending  
17   said hand over to be started or ended.

3 a notifying unit that notifies a result (success or failure) of  
4 trying starting or ending the hand over according to the timing  
5 judged by said timing judgement unit, to a base station with which  
6 said mobile terminal is communicating.